

# The Burden of Asthma in North Carolina 2006

Kelly Jensen, MSPH

Asthma Program
Chronic Disease & Injury Section
Division of Public Health
North Carolina Department of Health and Human Services

For electronic copies and periodic updates, please visit: www.asthma.ncdhhs.gov



Asthma Program
Chronic Disease and Injury Section
Division of Public Health
1915 Mail Service Center
Raleigh, NC 27699-1915

#### Disclaimer:

This publication was supported by Cooperative Agreement # U59/CCU424184 from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.

## **Acknowledgements:**

#### Contributors and Reviewers:

#### Caroline Chappell, MPA

North Carolina Asthma Program

#### Diane Price, MEd

North Carolina Asthma Program

#### Janet Reaves, MPH

North Carolina Chronic Disease and Injury Section

#### Dorothee Schmid, MA

North Carolina State Center for Health Statistics

#### Bob Woldman, MA

North Carolina State Center for Health Statistics

#### Karin Yeatts, PhD

UNC School of Public Health

#### Laura Gerald, MD

Community Care of North Carolina

#### Scott Proescholdbell, MPH

North Carolina Tobacco Prevention and Control

#### Viji Potula, PhD

Centers for Disease Control and Prevention

### Kathie Sunnarborg, MPH, CHES

Centers for Disease Control and Prevention

#### M. Katherine Denton, MS

N.C. Breast and Cervical Cancer Control Program

Suggested Citation: Jensen, K. Burden of Asthma in North Carolina, 2006. Raleigh, NC: N.C. Department of Health and Human Services; 2006.

# Table of Contents

Executive Summary	
Introduction	1
Asthma Prevalence	5
Adult Asthma Prevalence	7
Lifetime and Current Asthma	ç
Child Asthma Prevalence	16
Lifetime and Current Asthma	17
Youth Risk Behavior Survey	23
Age At Diagnosis of Asthma	27
Asthma Management and Quality of Life	31
Symptoms and Severity of Asthma	32
Daytime Symptoms	34
Nighttime Symptoms	35
Asthma Attack or Episode	35
Adults	36
High School Students	37
Children	39
Health Related Quality of Life	40
Adults	41
Children	42
Missed Activity	44
Adults	44
Children	45
Asthma Management Activities	46
Asthma Management in Schools	47
Asthma and School Physical Education Classes	51
Environmental Triggers	52
Smoking	54
Health Care Utilization	57
Asthma Office Visits	59
Hospitalizations	59
Aggregate Hospitalization Rates	61
2004 Hospitalization Rates	65
Race and Ethnicity	67
County Specific Hospitalization Data	67
Cost of Asthma	70
Emergency Room Visits	72
North Carolina Emergency Department Database	74
Asthma Medication	75
Long term Control Medication Usage	75
Asthma Quick Relief Medication Usage	75

## Table of Contents, cont.

HEDIS Measures	79
Mortality	83
Asthma As A Primary Cause of Death	84
Asthma As A Contributory Cause of Death	84
Healthy People 2010	99
Healthy Carolinians	105
Discussion	107
References	111
Technical Notes	117
Appendix A. Data Sources	123
Appendix B. Asthma Medication Possession	
and Self Administration Law	129
Appendix C. Additional Mortality Data	133
Appendix D. County Specific Data	138
Appendix E. Regional Specific Data	153
Appendix F. Youth Risk Behavior Survey	155
Appendix G. North Carolina Annual School Health Services	
Report for Public Schools:	
Summary Report of School Nursing Services	165
Appendix H. Medicaid Data	171
Appendix I. Population Distribution of North Carolina	175